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REVIEW OF MATTERS RELATING TO U.S. ARMY LABORATORIES AND RESEAR--ETC (1)
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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

HUMAN RESOURCES
DIVISION

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The Honorable Jack Brooks
Chairman, Subcommittee on Legislation
and National Security
Committee on Government Operations
House of Representatives

14 GAO/HRD-81-98

Dear Mr. Chairman:

Subject: (b) Review of Matters Relating to U.S. Army
Laboratories and Research Activities in the
San Francisco Area (HRD-81-98)

In response to your October 30, 1980, letter, we reviewed a number of allegations and sought answers to questions concerning activities at (1) the Letterman Army Institute of Research (LAIR), located adjacent to the Letterman Army Medical Center (LAMC) in San Francisco, and (2) the LAMC Area Laboratory, formerly located at nearby Fort Baker, California.

It was alleged that, at LAIR, unauthorized biological research was being conducted; an outbreak of fever linked to LAIR research activities had occurred among the staff; and physicians from LAMC refused, for philosophical reasons, to work at the adjacent LAIR facility. Several questions were also raised about the relocation of the LAMC Area Laboratory from Fort Baker to LAIR, including:

- Was the Government adequately compensated for the sale of vacated buildings and abandoned equipment at Fort Baker?
- Were the Area Laboratory buildings and equipment properly decontaminated both when they were being used and when the relocation took place and what procedures were followed in disposing of contaminated waste?
- What research activities remain at Fort Baker?

The results of our work are detailed in the enclosure. In summary, we found no evidence that unauthorized research was being conducted at LAIR or that LAMC physicians refused to work there. An outbreak of fever among employees at LAIR was attributed to

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-infected sheep being used in research. Such a fever among those working closely with sheep is not uncommon, and the infected individuals all recovered fully.

Our work at Fort Baker indicated that the buildings and equipment were disposed of in accordance with Army regulations. Additionally, the procedures followed in decontaminating buildings and equipment and disposing of contaminated waste appeared proper and in accordance with established guidelines. All research activities have been transferred from Fort Baker to LAIR.

Repeated attempts to meet with the primary source of information leading to your request were unsuccessful. Nonetheless, we attempted to ascertain the individual's credibility. Army records did not support this person's claim that he was a physician employed by LAMC as a consulting surgeon, and local government and professional organizations had no record of him as a licensed physician.

During our review, we were contacted by personnel from the Federal Bureau of Investigation. They believed that this person could have been someone the Bureau was investigating as having a history of impersonating a surgeon and a military officer. Other persons identified as having information on matters relating to your request claimed they had no specific knowledge about the allegations or questions raised.

As requested by your office, we have not obtained written comments on this report but have discussed our findings with Army officials. Also, as arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

Gregory J. Ahart
Director

Enclosure

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ABBREVIATIONS

FBI	Federal Bureau of Investigation
LAIR	Letterman Army Institute of Research
LAMC	Letterman Army Medical Center

REVIEW OF MATTERS RELATING TO U.S.ARMY LABORATORIES AND RESEARCHACTIVITIES IN THE SAN FRANCISCO AREAINTRODUCTION

In an October 30, 1980, letter, the Chairman, Subcommittee on Legislation and National Security, House Committee on Government Operations, requested that we review a number of allegations and questions about the activities at two Army facilities in the San Francisco area--the Letterman Army Institute of Research (LAIR) and the Letterman Army Medical Center's (LAMC's) Area Laboratory.

It was alleged that, at LAIR, unauthorized biological research was being conducted; an outbreak of fever linked to LAIR research activities had occurred among the staff; and physicians from LAMC refused, for philosophical reasons, to work at the adjacent LAIR facility. Several questions were raised about the relocation of the LAMC Area Laboratory from Fort Baker to LAIR, including:

- Was the Government adequately compensated for the sale of vacated buildings and abandoned equipment at Fort Baker?
- Were the Area Laboratory buildings and equipment properly decontaminated both when they were being used and when the relocation took place and what procedures were followed in disposing of contaminated waste?
- What research activities remain at Fort Baker?

LAIR is located adjacent to LAMC in the Presidio of San Francisco. The LAIR building is connected to the LAMC building by a third floor walkway. In addition to housing its own organization, the LAIR building provides space for LAMC's Department of Pathology Area Laboratory, formerly located at Fort Baker, and the U.S. Department of Agriculture's Western Nutrition Research Center.

LAIR is a component of the U.S. Army Medical Research and Development Command. Its mission is to conduct general military medical research and specific research in dermal (skin) protection against biological, chemical, and radiological hazards; battle casualty management; effects of military lasers; military trauma and resuscitation; and blood preservation. Also, within available resources and capabilities, LAIR supports clinical investigation projects recommended by the Commander of LAMC. LAIR also performs other medical research activities as directed by the Commanding General, U.S. Army Medical Research and Development Command.

From 1947 to 1979, LAMC's Department of Pathology Area Laboratory was located at Fort Baker, an Army installation in Marin County, California. In 1979, the Area Laboratory was moved to LAIR, across San Francisco Bay from Fort Baker. At the completion of our review in February 1981, all Area Laboratory activities had been relocated to the LAIR facility.

The Area Laboratory serves as a consultative and investigative laboratory for military installations and activities within an area that includes 12 Western States and several overseas stations. The laboratory provides a wide variety of epidemiologic and sanitary and diagnostic services. The laboratory's mission also includes chemical, biological, and radiological analyses. The laboratory, however, does little basic or applied research.

SCOPE AND METHODOLOGY

We made our review primarily at LAMC, LAIR, and Fort Baker. We met with management, research, and other LAMC and LAIR officials and reviewed available documentation to determine what the scope and nature of LAIR's and the Area Laboratory's research were and whether it was authorized under Army regulations and procedures. We held similar meetings with officials in the Army's Medical Research and Development Command, Fort Detrick, Maryland, which has command responsibility for LAIR activities.

We met with representatives of the Directorate of Facilities Engineering, Presidio, San Francisco, and the U.S. Corps of Engineers' District Office, Sacramento, California, to obtain specific information on the relocation of the Area Laboratory to LAIR and the disposal of buildings and equipment at Fort Baker. We also reviewed records and reports to determine whether the Army's buildings and equipment disposal process conformed to its applicable regulations and procedures.

We pursued matters relating to the outbreak of fever among LAIR staff members and decontamination practices at Fort Baker with officials of the California Public Health Services, Infectious Disease Control, Berkeley, California; the Marin County Health Services, San Rafael, California; and the San Francisco city and county communicable diseases organizations, San Francisco, California. Further information on how we pursued the individual allegations and questions is presented in the following sections.

We attempted to contact the individuals identified as the principal sources of information leading to this request. We were unsuccessful in repeated attempts to meet with the person who was the primary source. Nonetheless, we attempted to ascertain his credibility. Although he had claimed to be a physician employed by LAMC as a consulting surgeon, Army records did not show that the Army had ever employed him. In addition, the California Medical Quality Assurance Board and the San Francisco County Medical

Association had no record of this person as a licensed physician. He was also not listed in the American Medical Association directory. During our review, we were contacted by personnel from the San Francisco office of the Federal Bureau of Investigation (FBI), who were investigating an individual with the same name as this source. According to the FBI, the person under investigation has a history of impersonating a plastic surgeon and an Air Force officer, and the FBI believed that person could have been the same person we were attempting to contact.

We contacted the two other individuals identified as having detailed information on the matters we were requested to review. However, they claimed to have no specific knowledge about these matters.

NO EVIDENCE OF UNAUTHORIZED RESEARCH

The research projects conducted during fiscal year 1980 at LAIR were in all cases approved and unclassified. Moreover, the fact that the LAIR facility is accessible to the public, is occupied by three Federal agencies, and lacks sufficient safeguards to handle hazardous microorganisms tends to make it a poor choice for conducting unauthorized or secretive research.

LAIR policy requires that all research proposals undergo scientific review, before approval, to determine scientific validity, need, practicality, personnel, equipment, funding requirements, and relationship to LAIR's mission. Before approval, all proposals, except preliminary studies, are reviewed by a Protocol Review Committee consisting of at least six persons, including the Deputy Commander and at least one representative from each research division. Preliminary studies are reviewed by LAIR's Deputy Commander and Commander.

Our review of summary documents concerning the research projects underway at LAIR during fiscal year 1980 showed that each project was approved and involved no classified research work. Also, an examination of about half of LAIR researchers' time charges for a 6-month period ended September 20, 1980, showed that all were made to authorized, unclassified projects.

The LAIR building is open to the public and houses three Federal activities. In addition to housing the LAIR activities, the building contains LAMC's Department of Pathology Area Laboratory, formerly located at Fort Baker, and the U.S. Department of Agriculture's Western Nutrition Research Center. As of March 1981, the Nutrition Research Center at LAIR employed 9 Government employees and 30 contract workers from the University of California, Berkeley. It conducted human research in nutrition with up to 12 persons who stayed in the building 24 hours a day, 7 days a week, for from 1 to 3 months.

According to its Commander, LAIR lacks the authority, as well as sufficient facilities and safeguards, to handle hazardous micro-organisms, such as those used in biological warfare research. The Army's program of medical research for defense against biological agents is conducted at the Army Medical Research Institute of Infectious Diseases, Fort Detrick, Maryland.

LAIR conducted some research during fiscal year 1980 using insecticides and other low-hazard chemicals to simulate the effects of toxic or hazardous chemical agents. This research was designed to develop protection against the effects of certain chemical warfare agents.

LAIR is classified as a Biosafety Level 2 facility under proposed guidelines developed by the Department of Health and Human Services' Center for Disease Control. These biosafety levels are to provide practicable and attainable levels of protection for personnel, the community, and the environment for activities involving infectious agents. According to these guidelines, Level 2 facilities work with a broad spectrum of indigenous moderate-risk agents present in the community and associated with human disease of varying severity. Research using more hazardous agents would require the use of a Level 3 or 4 facility, and no such agents were used at LAIR.

INFECTED SHEEP CAUSED OUTBREAK
OF FEVER AMONG RESEARCHERS

According to LAIR officials, the fever that occurred among several LAIR staff members was caused by infected sheep housed at the LAIR facility. Between March and August 1980, eight persons working at the LAIR facility were diagnosed as having contracted Q fever, a disease readily transmitted to humans by sheep and goats. It was later determined that the disease was transmitted by infected sheep kept in the LAIR facility and used in LAMC's clinical investigation studies. The sheep were not used in any LAIR research work.

According to LAIR and LAMC officials, outbreaks of Q fever among researchers using sheep are not uncommon. We also discussed the incidence of Q fever in research laboratories with the Deputy Chief, Infectious Disease Control, California Public Health Service. He confirmed that Q fever is easily contracted by persons who handle sheep, especially during the lambing period.

The symptoms of Q fever are similar to those of influenza. Once the disease is diagnosed, it responds well to antibiotics. According to Army records and our discussions with a principal LAMC investigator who used sheep in his research, all of the infected individuals at LAIR fully recovered from this disease.

In August 1980, the Commander of LAIR discontinued the housing of sheep in the LAIR facility; some sheep were destroyed and others returned to the supplier. According to the Commander, special facilities are required to house sheep, and LAIR was not designed for such a purpose. Accordingly, until an adequate vaccine against Q fever is developed and the facility is properly renovated, LAIR will no longer house sheep. He noted that such renovation was not likely to occur in the near future.

NO BASIS FOR CHARGE THAT LAMC PHYSICIANS REFUSE TO WORK AT LAIR

The charge that LAMC physicians refused, for philosophical reasons, to work at LAIR appeared to be unfounded. We spoke with those responsible for the research activities at LAMC, LAIR, and the Area Laboratory as well as with five researchers from these organizations. None of these individuals knew of any physicians refusing to work at LAIR, although a few acknowledged that they had heard rumors to that effect. U.S. Army Medical Research and Development Command officials told us that there have been no complaints from either LAIR or LAMC personnel concerning the research support agreement between the two organizations. In addition, neither LAIR nor the U.S. Army Medical Research and Development Command has ever received any request for information from personnel at LAMC about the LAIR research program.

According to the LAMC Chief of Professional Services, LAMC physicians are not required to work at LAIR. Physicians serving their residency program at LAMC are required to do a research paper as part of their program, but this research does not necessarily require work at LAIR. In addition, he mentioned that, rather than being opposed to working at LAIR, some LAMC staff feel that more LAIR facilities should be made available to LAMC personnel.

DISPOSITION OF BUILDINGS AND EQUIPMENT APPEARS TO HAVE BEEN PROPER

The buildings (and certain equipment) that formerly housed the Area Laboratory at Fort Baker were disposed of in accordance with prescribed regulations and procedures for such activities.

In September 1979, the LAMC Area Laboratory was moved from Fort Baker to available space in the LAIR building because of the deteriorated condition of the Fort Baker buildings. The abandoned site at Fort Baker was scheduled to be turned over to the National Park Service to become part of the Golden Gate National Recreation Area. The nine buildings occupied by the Area Laboratory were turned over to the Presidio's Facilities Engineer for disposition. His decision to sell the buildings for salvageable materials, which was in accordance with Army regulations, was based on a determination that these facilities had exceeded their

life expectancy and had become excess to both the Army and the Golden Gate National Recreation Area.

Army regulations require that facilities no longer serving a useful purpose be removed from an installation and the Army's real property inventory. The regulations provide for the disposal of buildings through (1) demolition and salvage of materials, (2) sale intact for removal from the site, (3) transfer to another agency, or (4) donation, abandonment, or destruction. In this instance, the Army was looking for a quick, inexpensive way to demolish and remove the buildings and turn the land over to the Park Service. An official in the office of the Facilities Engineer estimated, based on previous experience, that demolition and removal of the nine buildings by a private contractor would cost approximately \$2 a square foot, or about \$77,000. The Corps of Engineers estimated that the cost to demolish the buildings using Army personnel would have been about \$1.75 per square foot, or about \$68,000, not including the removal of the concrete foundation. The sale of the buildings, which included the removal of the buildings and all associated debris, was managed by the Corps of Engineers Sacramento District.

To alert the public to the availability of the buildings, the Corps of Engineers placed a 2-day advertisement in the classified section of six San Francisco Bay area newspapers. In addition, the Corps issued a press release giving details of the sale and mailed advance notice of solicitations to 240 individuals and businesses. Only three individuals submitted bids.

On July 2, 1980, the bids were opened and awards were made to the two highest bidders. The bids for the sale of all nine buildings totaled \$4,747. The amount of \$4,687 offered and accepted for seven of the buildings by one bidder was later reduced to \$3,000 because several items of equipment had been taken from the buildings or damaged. The Corps of Engineers agreed to the price reduction.

The sale of the nine buildings also included some of the furnishings and equipment. Other furnishings were either moved to the new location at LAIR or placed in storage and eventually sold as salvage. The decision to move, store, or abandon furnishings and equipment was made by the Medical Maintenance Section of LAMC, based on a building-by-building inspection to identify and determine the condition and repairability of each item.

Army regulations limit the amount that can be spent for repairing equipment, based on its remaining useful life. When the estimated cost to repair or overhaul equipment exceeds the expenditure limit, no maintenance expenditure can be authorized without special waiver. In the absence of historical data on the cost and age of equipment, maintenance personnel are permitted

to use their judgment in determining the repairability of an item. In the case of the equipment at Fort Baker, this determination was made by the Medical Maintenance staff.

We reviewed the inventory list of abandoned furnishings and equipment sold with the buildings and inspected four of the buildings containing abandoned furnishings and equipment. It appeared that the equipment was installed or attached to the buildings themselves and included such items as a built-in refrigerator, cabinets, radiators, and work tables and benches. The Chief of Supply, LAMC, informed us that the abandoned equipment either had a limited life or could not easily be dismantled and removed. The Chief of Logistics and the Chief of Property Management, LAMC, agreed that it would have cost more to dismantle, remove, store, and transport the installed items to the Property Disposal Office than the Army could earn from their sale. The Chief of Supply said that, in some cases, equipment could not be removed without taking the buildings apart and that, because of advanced age, some equipment would fall apart during dismantling.

NO EVIDENCE OF IMPROPER
DECONTAMINATION PROCEDURES

Reports on independent inspections conducted by the College of American Pathologists and two U.S. Army organizations concerning the Area Laboratory's decontamination practices both before and after its relocation showed no major problems. Moreover, county and local health officials with whom we spoke indicated that their efforts relating to similar allegations concerning improper practices at the Area Laboratory produced similar results.

LAMC's Department of Pathology and Area Laboratory are accredited by the College of American Pathologists. Accreditation, which is renewed every 2 years, includes physical inspections of sections and services within the Department of Pathology, including the Area Laboratory. In reviewing the College's reports on its November 1978 and November 1980 inspections, we noted no major problems concerning the decontamination of facilities. The Department of Pathology was granted accreditation following both inspections.

In May 1979, members of the U.S. Army Health Services Command inspected LAMC, including the Department of Pathology. Their report did not disclose any deficiencies in decontamination practices.

In July 1978, the U.S. Army Environmental Hygiene Agency, Aberdeen Proving Grounds, Maryland, inspected the Area Laboratory for, among other things, environmental health and industrial hygiene. The report included no reference to improper decontamination practices.

We spoke with the Marin County Health Officer concerning de-contamination practices at Fort Baker. He had previously received a call from a person claiming to be a physician with the State Health Department concerning the conditions at the Fort Baker laboratory. According to the caller, biological warfare experiments using malaria and TB germs were being conducted at Fort Baker, and the buildings had been abandoned without being properly decontaminated. The Health Officer investigated these charges and found them without basis. Furthermore, he later learned that the State Health Services did not employ a physician with the name used by the caller.

A physician with the San Francisco City and County Health Department familiar with communicable disease activities informed us that she had received a similar call from an individual using the same name and claiming to be a physician with the State Health Department. She questioned the validity of the charges raised and later found no such physician listed in the professional directories she consulted.

According to the Chief, Microbiology Section, who was responsible for the research work at Fort Baker, the Area Laboratory was decontaminated in accordance with guidelines issued by the College of American Pathologists and the Joint Commission of Accreditation of Hospitals. In his view, the buildings did not present a health hazard to the laboratory workers or the surrounding community. Moreover, he stated that, to protect the health of laboratory personnel, proper decontamination procedures must be followed. In this regard, he said there had been no known laboratory-related illnesses at the Area Laboratory in the past 13 years.

The Chief, Microbiology Service, said that contaminated waste at Fort Baker was incinerated or autoclaved (a procedure using pressurized steam) in accordance with Army regulations and the College of American Pathologists' guidelines. Presently, the Area Laboratory uses LAIR's facilities--a walk-in autoclave and incinerator--to decontaminate waste before disposal. Reports on inspections by the various teams mentioned above did not disclose any deficiencies in the Area Laboratory's waste disposal.

LITTLE RESEARCH CONDUCTED
AT AREA LABORATORY

The Area Laboratory, as a consultative and investigative laboratory, conducts few research projects. Rather, it provides complete hospital-type laboratory services as well as reference laboratory services for LAMC and other military installations in the Western United States and several overseas locations. As such, the Area Laboratory provides reference examinations, confirmations on clinical specimens and cultures, and evaluations of local test procedures. In addition, technical training and consultations are provided on request.

ENCLOSURE I

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We noted only two instances where the Area Laboratory has conducted separate research projects--both in support of broader Army research efforts. In 1968, a research contract was initiated by the Army Medical Research and Development Command dealing primarily with epidemiological surveillance of acute upper respiratory diseases in certain military populations. This is an ongoing research effort in support of a vaccine development program. A second research effort completed at Fort Baker in fiscal year 1976 involved support for LAIR's in-house nutrition research program.

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